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J. J. BROWN.
SAFETY DEVICE FOR ELEVATORS.
APPLICATION FILED MAY 31, 1905.

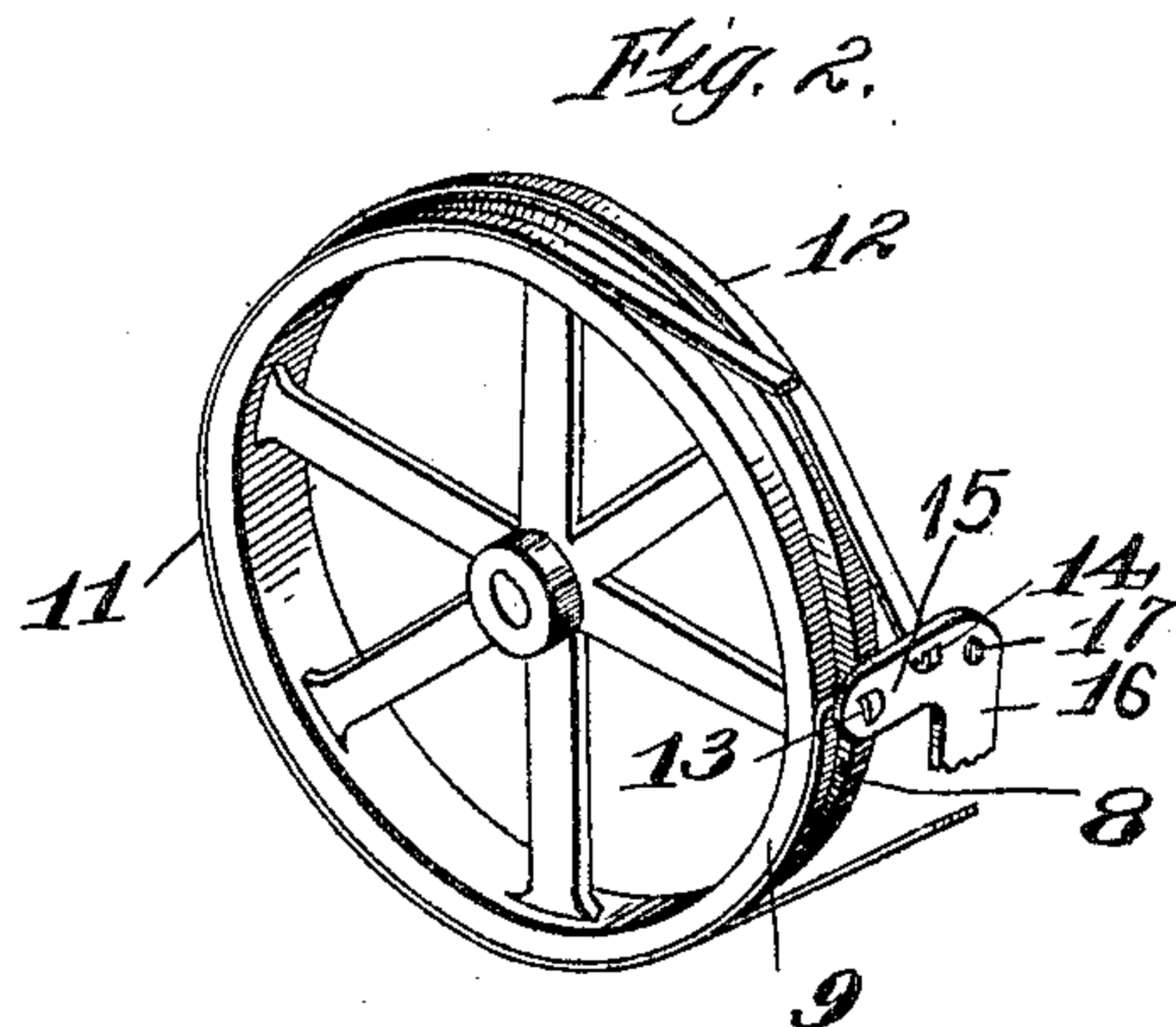
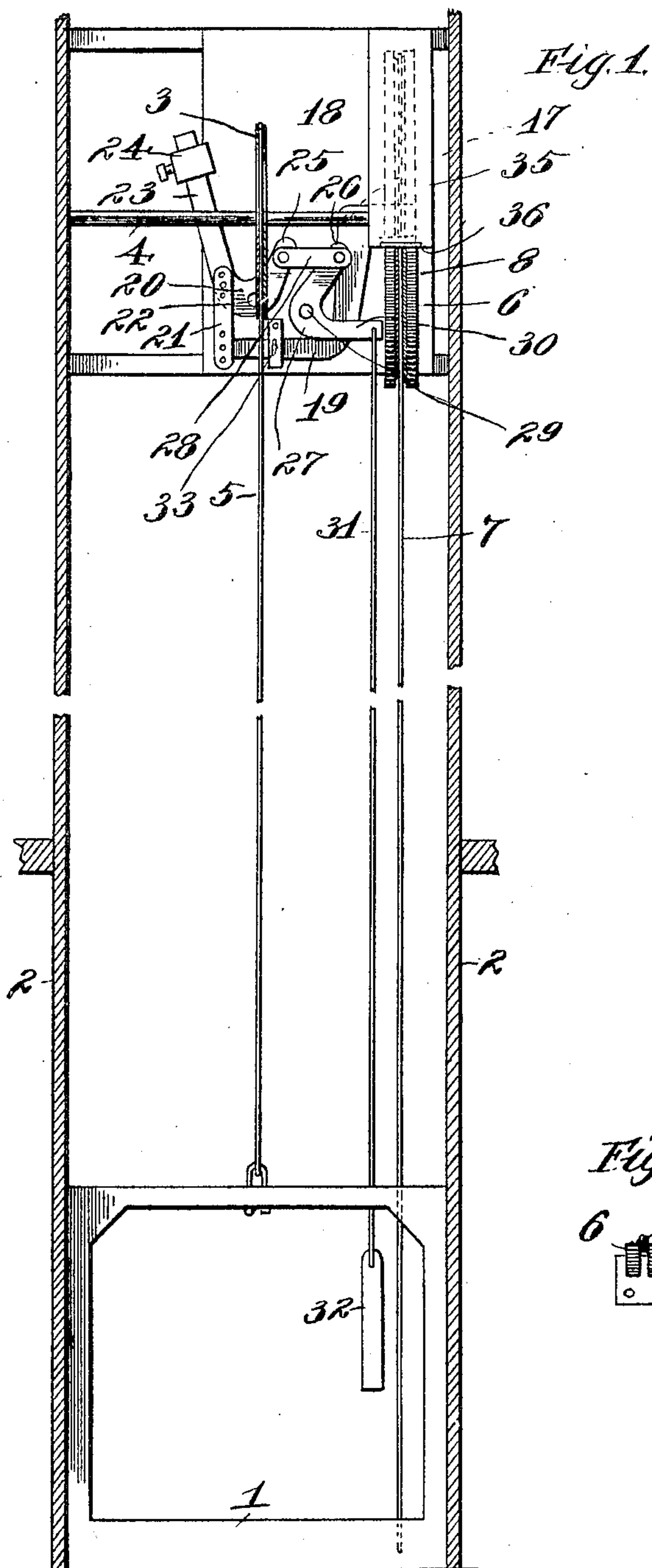


Fig. 4.

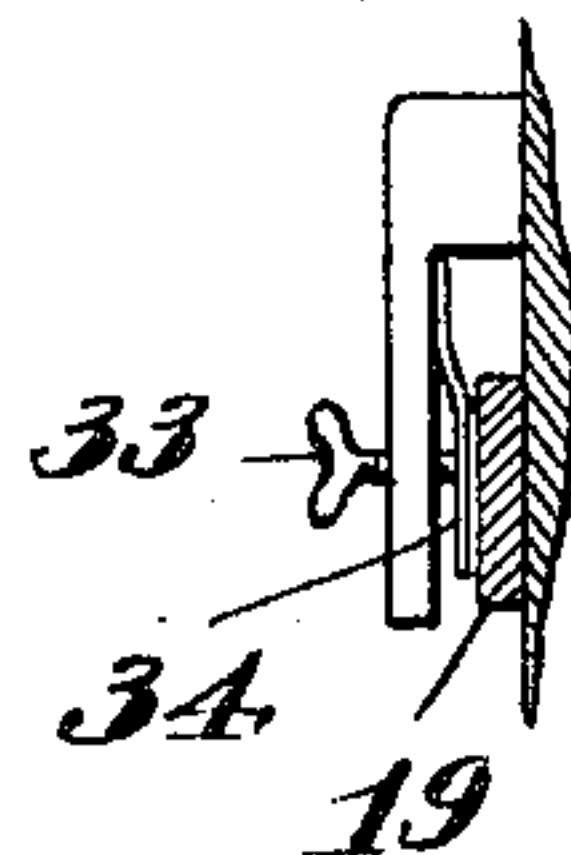
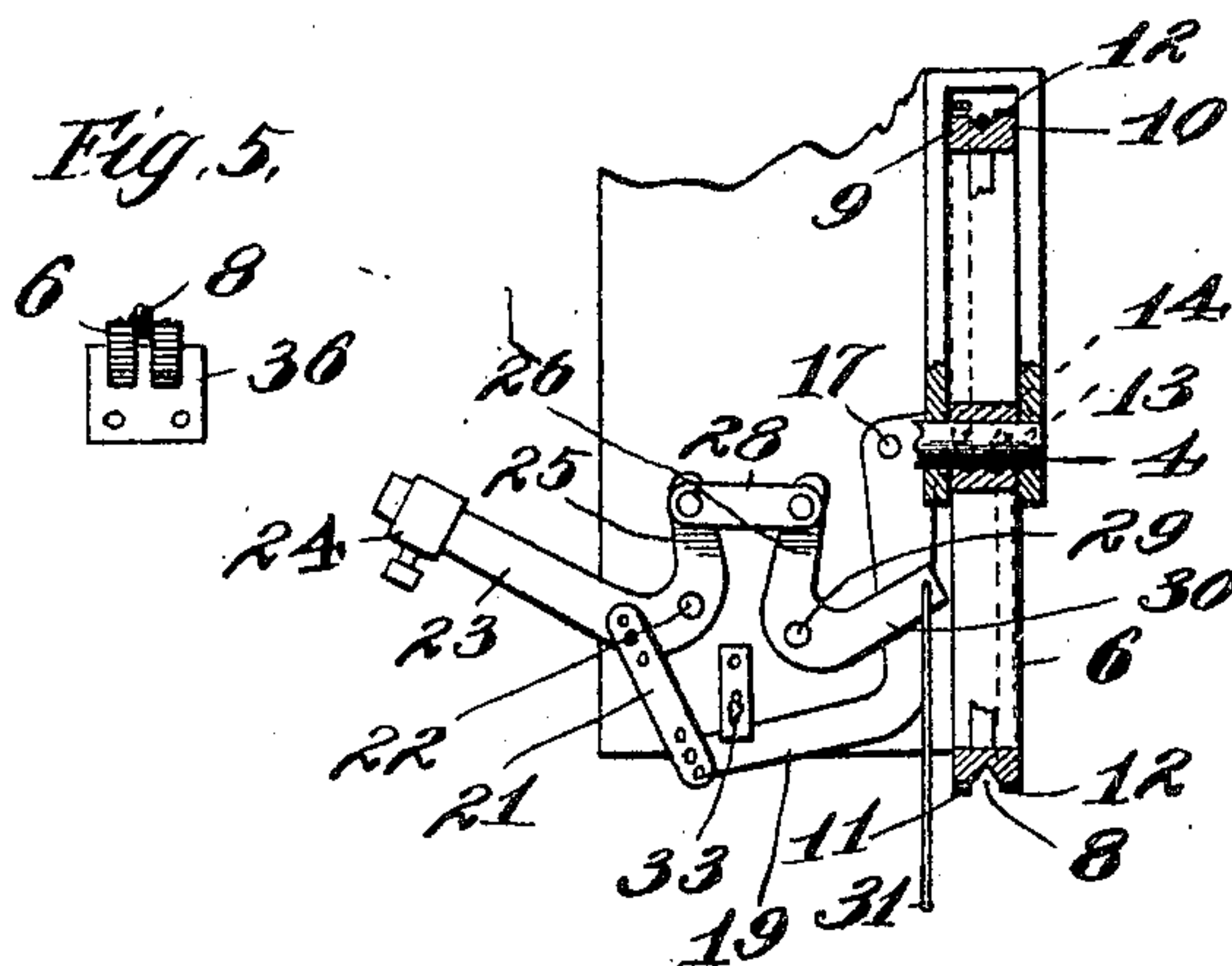


Fig. 3.



Witnesses.

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SAFETY DEVICE FOR ELEVATORS.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JOHN J. BROWN, a citizen of the United States, residing at Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Safety Devices for Elevators; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to elevators, has especial reference to safety devices for arresting the car and holding it in any desired position during the ascent or descent of the car, and the invention consists in certain improvements in construction which will be fully disclosed in the following specification and claims.

In the accompanying drawings, which form part of this specification, Figure 1 represents a vertical transverse section, partly in elevation, of an elevator provided with my invention; Fig. 2, a perspective of the hoisting-wheel with the brake-bands in position thereon; Fig. 3, a front elevation, partly in section, of the same, its supporting-bracket, and the operating mechanism for applying and releasing the brake-bands; Fig. 4, an enlarged detail of the means for applying friction to the operating mechanism, and Fig. 5 an inverted plan of a guard applied to the hoisting-wheel.

Reference being had to the drawings and the designating characters thereon, the numeral 1 indicates a car or platform of an elevator or dumb-waiter; 2 2, the sides of the well in which the car travels; 3, the wheel or pulley, mounted on a shaft 4 and provided with a rope or cable 5, attached to the car, and 6 a hoisting or power wheel over which a rope 7 travels and by which the car is raised in the well.

The wheel 6 is provided with a groove 8 in which the rope 7 travels, and on each side the groove is a flat surface 9 10, engaged, respectively, by metal brake-bands 11 and 12, one end 13 14 of each of which bands is secured to one end 15 of a compound lever 16, fulcrumed at 17, and the opposite end of each band is secured to a fixed part of the structure, in this instance by being extended through the board 18 and secured on the back side thereof. (Not shown.)

The arm 19 of the lever 16 is pivotally connected to a bell-crank lever 20 by a link 21, and said lever is fulcrumed at 22, and the long arm 23 of said lever is provided with an adjustable counterweight 24, and the arm 25 is

pivotally connected to the arm 26 of another bell-crank lever 27 by a link 28. The lever 27 is fulcrumed at 29, and to the arm 30 is attached a metallic rod, a rope, or cord 31, provided with a weight 32 for holding the band 11 in engagement with the surface 9 on the wheel 6, at which time the several levers are in the position shown in Fig. 1.

Should the cord 31 break or the weight 32 become detached from any cause, the counterweight 24 instantly throws the levers into the reverse position (shown in Fig. 3) and applies the band 12 to the surface 10 on the wheel 6 and stops the car automatically.

Friction is applied to the arm 19 of the lever 16 by a set-screw 33 and a spring or shoe 34 (shown in Fig. 4) to determine the ease with which the lever 16 shall be thrown from one to the other position and hold both bands 11 and 12 normally out of engagement with the wheel 6.

When it is desired to stop or hold the car in any position, the operator pulls on the cord 31 and sets the brake-band 11 on the wheel, and when he desires to release the band he simply raises the weight 32, when the counterweight 24 shifts the position of the several levers and holds them in their normal position, with both bands out of frictional engagement with the wheel 6.

Under the arbor 35 is a guard 36 (shown in Fig. 5) to prevent the bands 11 and 12 being displaced on the wheel 6.

The car thus provided with my safety device is always under the absolute control of the operator through the cord 31 and weight 32, operating upon brake-band 11, and should these fail to work the counterweight 24 automatically applies the brake-band 12 and arrests the car.

Having thus fully described my invention, what I claim is—

1. In an elevator, a car, and means for arresting the car, comprising a wheel, oppositely-operating brake-bands, and means for applying and releasing said bands in relation to said wheel.

2. In an elevator, a car, and means for arresting the car, consisting of a wheel, oppositely-operating brake-bands, a lever, one end of each of which bands is fixed and the opposite end connected to the lever, means for operating the lever, and a counterweighted lever connected to the first lever.

3. In an elevator, a car, and means for arresting the car, comprising a grooved wheel,

oppositely-operating brake-bands on opposite sides of said groove, a pivoted bell-crank lever, one end of each of which bands is fixed and the opposite end connected to an arm of said pivoted bell-crank lever, a second bell-crank lever fulcrumed and having an arm provided with a counterweight, and pivotally connected to one arm of the first bell-crank lever, and means for operating both bell-crank levers and applying and releasing the brake-bands.

4. In an elevator, a car, and means for ar-

resting the car, comprising a wheel provided with oppositely-operating brake-bands, means for applying and releasing said bands, and means for retarding the operation of the band applying and releasing mechanism.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN J. BROWN.

Witnesses:

NELLIE LATHAM,

H. CARHART SHIMER.